BRITISH MASTERS OF OPHTHALMOLOGY SERIES

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(1791-1868.)

Her Majesty's Oculist for Scotland
Surgeon to the Glasgow Eye Infirmary

BY

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GLASGOW

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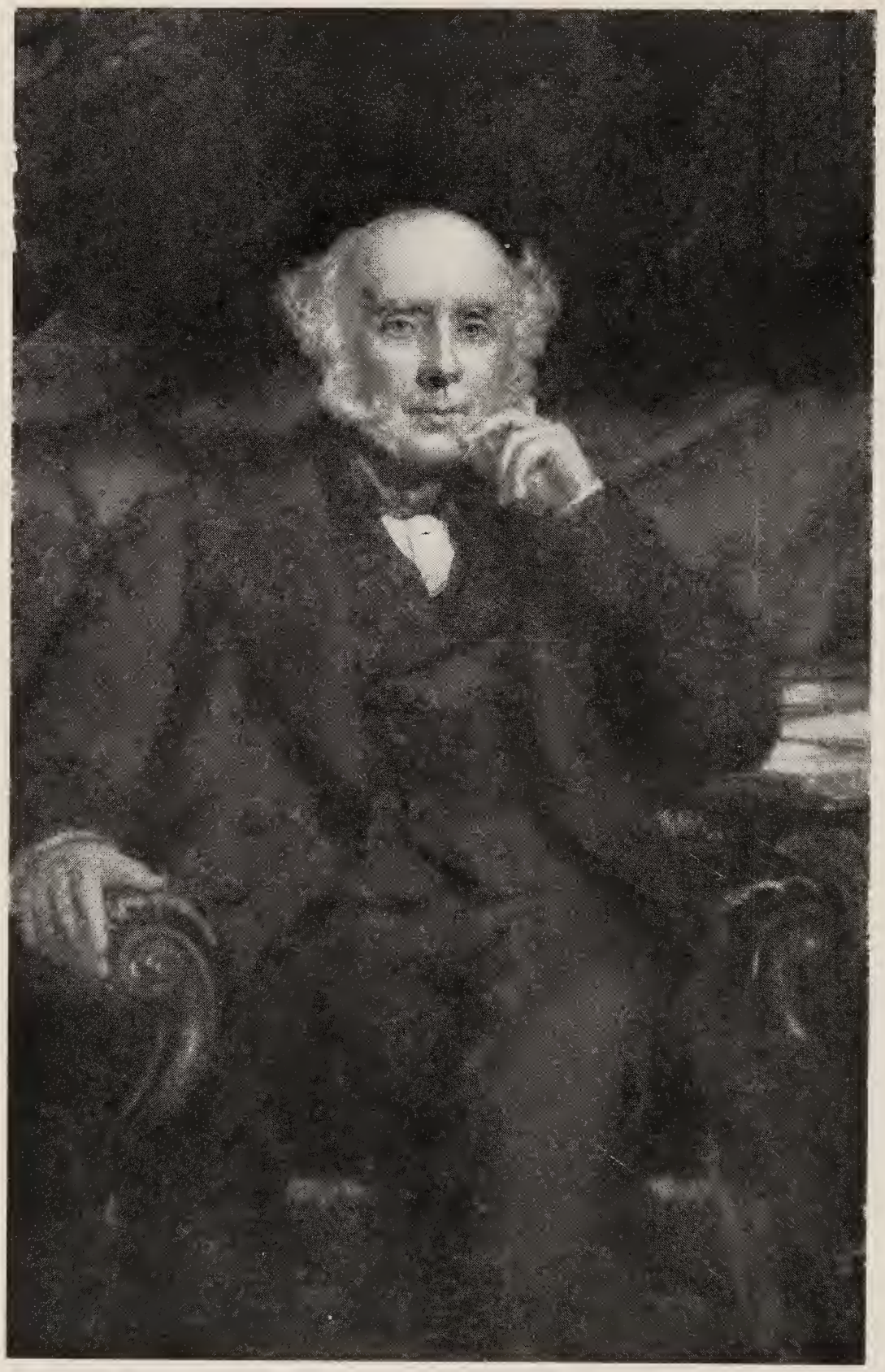

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I.—Sketch of the LIFE OF WILLIAM McKENZIE, M.D. (1791-1868.)

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GLASGOW.

GLASGOW with the West of Scotland is, in the popular mind, chiefly associated with industrial development, the rule of Bailies, and bad weather, but its contributions to the intellectual developments of the country have been not inconsiderable. Thus, in engineering science it has produced men like James Watt, McQuhorn Rankin, James Thomson, and Lord Kelvin. In philosophy it has had Thomas Reid, the founder of the Scottish school of metaphysics, Adam Smith, the political economist, Edward and John Caird, and many others of considerable note. In medicine, it has been served by a race of men remarkable for clearness of vision and originality of thought. True it is that many eminent Glasgow and Lanarkshire men have sought fame in regions far removed from the place of their upbringing and many of them have risen to great distinction, even in the Metropolis of the Empire. The birth places of William and John Hunter, of Cullen, of Matthew Baillie and of David Livingstone are all situated within a distance of three miles from each other and in close proximity to Glasgow. Cullen was born at Hamilton, his father being the chamberlain to the then Duke of Hamilton. Matthew Baillie was the son of the Minister of Bothwell, and the brother of Joanna Baillie, the poetess. The Hunters were the sons of a small landed proprietor in the parish of East Kilbride, and David Livingstone was the son of a weaver in the village of Blantyre.

Amongst other names associated with the Glasgow School of Medicine we may mention Joseph Black, Thomas Thomson, Thomas Graham, afterwards Master of the Mint, and Joseph Lister. It was during his occupancy of the Chair of Surgery in Glasgow that Joseph Lister really put his finger on the diseased spot and said that wounds went wrong because of micro-organic life. No greater discovery has ever been made in the annals of humanity, and it

gives the discoverer a foremost place in the ranks of those that have benefited the human race. It was while he lived in Glasgow that Lord Lister evolved the theory that failure from inflammation after operation depended on micro-organisms and was therefore preventable. In the early sixties perhaps no School in the country was better equipped than Glasgow. Allen Thomson taught anatomy; Sir William Gairdner, practice of medicine; Joseph Lister, surgery; John Easton (of syrup fame), materia medica; and William McKenzie, ophthalmology.

William McKenzie was all his lifetime, except for a short period when he was abroad and in London, connected with the City of Glasgow. His father was a manufacturer and a Glasgow merchant, and in the same city his distinguished son was born in the year 1791. He received his education in the Grammar School of his native place and in its University. When he entered Glasgow University, it was with a view of studying for the Presbyterian Ministry of the Church of Scotland, and, as a matter of fact, he had gone the length of enrolling as a student in the theological classes of that ancient seat of learning. What changed the course of events cannot now be ascertained.

His son and his widow are long since dead, as are also, so far as the present writer knows, his most intimate friends, such as George Rainy and the late James Robertson. He had not gone far in his divinity studies until he gave them up altogether and entered the medical classes. So far as can be learned, his medical studies were chiefly carried out at the University of Glasgow and at the Glasgow Royal Infirmary, where, as an undergraduate he was a pupil of Dr. Richard Millar, who subsequently was the first professor of materia medica in the University, and was, in addition, a man of considerable and wide erudition, for he made several contributions to the study of the history of medicine which are even yet appreciated as valuable. There is reason to believe that McKenzie began his medical curriculum about the year 1810 and qualified to practise by taking the diploma of the Faculty of Physicians and Surgeons of Glasgow, in the year 1815. In the days of which we speak the profession was seldom entered, even in Scotland, by means of the Universities. Few were the University medical graduates to be found in practice, even in the larger towns of Scotland. Most men entered the profession by means of an apprenticeship and by the licence or diploma of such bodies as the Royal Colleges in Edinburgh and the Faculty of Physicians and Surgeons in Glasgow. Shortly after taking the diploma already mentioned, McKenzie determined to go further afield, and from 1815 to 1817 or 1818, he spent his time in London and on the Continent, chiefly in Paris, Pavia, and Vienna.

While on the Continent, he must have studied very widely, for

he attended Roux in Paris, and Beer in Vienna, and also studied medical jurisprudence under Orfila. He was back in London probably about the end of 1817, or early in 1818, and settled in the Metropolis of the British Empire with the view of practising ophthalmology. He became a member of the Royal College of Surgeons of England. His best biographer, George Rainy, to whose monograph the present writer is indebted for most of the facts concerning the life of McKenzie, indicates that he was disappointed in his candidature for a popular lectureship on the subject of anatomy, and that this led to his returning to his native city in the year 1819.

Throughout his life, McKenzie was a diligent student. He read everything connected with medicine and with his own speciality on which he could lay his hand and carefully made notes of all the vast amount of literature which he perused. Moreover, he was an extensive writer, and thus we find that so early as his residence in London he made a contribution on "Diseases of the Lachrymal Organs." So far as the present writer is aware, that was his sole contribution to medical literature during his London career.

On his return to Glasgow he at once started as a general practitioner, with, be it said, a strong bias to ophthalmic practice, for within five years of his return to his native city, he, in company with Dr. Monteath, started in 1824, in a very small way, the Glasgow Eye Infirmary. He was appointed to the Chair of Surgery and also to that of Anatomy in Anderson's College, Glasgow, immediately on his coming to the city.

He always had a great interest in anatomical research, and to the last believed that a sound knowledge of anatomy was the essential basis of medical knowledge. In these days there was no Anatomy Act and the supply of material was extremely deficient, so we find McKenzie in 1824 issuing "An Appeal to the Public and to the Legislature on the necessity of affording dead bodies to the Schools of Anatomy by Legislative Enactment." This was published in Glasgow in 1824. In this *brochure* he gave a detailed scheme almost precisely similar to the one that was subsequently included in Warburton's Anatomy Act. He held the Chairs of Anatomy and Surgery in Anderson's College until the year 1828. In that year he was appointed lecturer in the University of Glasgow on the "Structure, Functions, and Diseases of the Eye," which lectureship he held till his death in 1868. During his tenure of the office of the Professorship of Anatomy he produced a monograph on Human Myology.

In addition to lecturing on surgery and anatomy, he also gave systematic teaching on materia medica and medical jurisprudence, and, further, gave a course of lectures on the ear.

McKenzie, as already mentioned, was a prolific contributor to

medical literature, but the work which brought his name prominently before the then ophthalmic world was unquestionably his "Practical Treatise on the Diseases of the Eye." That first appeared in 1830. It was translated twice into French, and into German, and Rainy also states that it was translated into Italian, although there seems to be some doubt as to whether the Italian translation was ever printed. It ran through four English editions, the first appearing, as already said, in 1830 and the last in 1854.

McKenzie also published a book on the "Physiology of Vision." This appeared in 1841 and is well worth perusing, were it only for the fact that it is a serious attempt to found a knowledge of this special subject on a physical basis. The earlier chapters of the work contain a very fair description of physical optics, as then understood. Is it too much to hope that at some time or other the modern student of ophthalmology will base his study of the eye on the same sure foundation? The list of authors at the end of each chapter of this work shows how thoroughly McKenzie had at his finger ends the bibliography of ophthalmology. Thus we come across the names of the men who were giants at that time, and before it, such as Thomas Young, Baptista Porta, Poggendorf, David Brewster, and a host of others. McKenzie certainly had a thoroughly reliable knowledge of the literature of his subject, and evidently was well-acquainted with its scientific side, as then understood.

In the current literature of that time we find many of his contributions. He was editor, for a period, of the *Glasgow Medical Journal*, to which he largely contributed, and also sent contributions to many other medical and scientific journals. Thus, in 1845, he made a contribution in the *Edinburgh Medical and Surgical Journal* on the "Vision of Objects on and in the Eye," which was an introduction to the then little known science of catoptrics.

We venture to think that McKenzie has left practically nothing which will be permanently associated with his name. He was unquestionably a man of great learning, not merely in the science of medicine but in other subjects. He had an excellent knowledge both of the classical and modern languages and was in all respects a widely-read and well-informed man. At the same time it must be freely admitted, he was not an investigator. He was more a collector and a brilliant clinician for the time at which he lived than a researcher. He was a shrewd observer and took the greatest pains to write down carefully all the clinical facts of his cases both in his private practice and in his public, but we venture to say that experimental research was entirely alien to his bent of mind. In an earlier part of this communication it was mentioned that at one period of his life he gave lectures on medical jurisprudence, but as he found himself unable to manipulate the experimental parts of the course, he

handed over that portion of his subject to a colleague. But McKenzie's book, although entirely out of date, cannot fail to be interesting to anyone who studies the history of ophthalmology. It was perhaps the last of the great books published before the scientific period began. A careful perusal of its pages will at any rate be useful to the modern practitioner, for it will show him the entire change that has come over medicine in all its branches within the last fifty years. Two discoveries about the middle of last century absolutely changed ophthalmic practice. One was the introduction into practical use of the ophthalmoscope by Helmholtz, about the year 1851, and the other was the discovery by Joseph Lister, at that time a colleague of McKenzie in Glasgow, some time before the year 1869, that post-operative inflammation was of micro-organic origin.

In those days the success or failure of a cataract operation was supposed to depend upon a number of circumstances, to which no operator now-a-days pays the slightest heed. The season of the year was one of them and the careful previous preparation of the patient for days or weeks beforehand was another. It was not realized that apart from occurrences which no man can foresee, such as intra-ocular hæmorrhage, the prognosis of a cataract operation very largely depends upon the flora of the conjunctival sac. It is interesting to find that so recently as 1854 McKenzie still selected as probably the best operation for cataract that of displacement, which he described under two categories, *viz.*, depression and reclination. In the main, he was not favourable to extraction. He evidently thought it highly dangerous, on account of its liability to be followed by a suppurative inflammation.

So everywhere it is the old-world teaching. Ophthalmia tarsi was to be treated with bread and milk poultices. The chief remedies to be employed under almost all circumstances were bleeding, mercury, and setons. He lived in the age of what was called the anti-phlogistic treatment and he carried it out with vigour and determination. In his later years, however, he to some extent abandoned this practice. It is almost pathetic to find in the description of his cases in his great work how he would draw so many ounces of blood and yet make, a day or two afterwards, a note on the same case that, notwithstanding the remedies, the patient was no better. Had he been a young man when Joseph Lister taught, it probably would have occurred to him that he was working entirely on wrong lines. Ophthalmology had not become then as it has now, a practical application of three sciences: physics, physiology, and pathology.

McKenzie, according to the light of the time, still believed that it was of vital importance what salts were dissolved in the fluid that was to be used for an eye wash. There was no germ theory

in his time, and, therefore, no practitioner of McKenzie's day ever for a moment supposed that the only important constituent of any lotion is water which, if not to be painful, must be made isotonic with something or other. Ointments and lotions and emplastra formed his chief armamentarium. Every now and again in his book the careful reader stumbles upon a case which was treated with leeches and with various other things of that sort where probably the sufferer was only the subject of some form of undetected refraction error or muscular irregularity. Yet there is no doubt that McKenzie was well acquainted with the physical side of the subject, as then understood. In the fourth edition of his book he gives no less than four pages to the subject of astigmatism, in which part of his work he details the two well-known cases of Thomas Young and Airy, the Astronomer Royal. The treatment of eye diseases was still supposed to be, for the most part, a matter of pharmacopœal remedies properly applied. Helmholtz at that time was living and working, so also was Donders, but the mass of ophthalmic practitioners throughout the world had not realised how completely the old order was to pass away in but a few years. McKenzie, however, was certainly well abreast of the times in which he lived.

Perhaps two things may be attributed to him. He was, we think, probably one of the first to give definite and special information on sympathetic ophthalmitis, and, in the second place, he very early in his career gave a definite description of glaucoma. We do not claim for him priority in the description of sympathetic ophthalmitis. Other writers had previously discussed the matter, but certainly McKenzie's description of the symptomatology of sympathetic ophthalmitis leaves nothing to be desired. At the time of the publication of his book, enucleation as a preventive measure was not in existence, although even then it was known that if the eye primarily affected were early destroyed, sympathetic ophthalmitis did not take place in the second eye. The destruction of the originally wounded eye was often brought about by incisions and the application of poultices and such like means, and McKenzie advocates that where an eye is so severely injured as to involve risk to the other, that this line of treatment should be adopted.

In dealing with glaucoma, his description of the symptomatology is almost classical, and he was amongst the earliest to draw attention to increase of tension as being a characteristic symptom of the disease. He thought the chief cause of glaucoma lay in a diseased condition of the lens.

It only remains to be added that McKenzie became an M.D. of the University of Glasgow in the year 1833, and was admitted a Fellow of the Royal College of Surgeons of England, *honoris causa*, in the year 1843. Modern ophthalmology in any true sense of that

term he never knew, but he certainly was a brilliant exponent of the science as it existed in his day, and unquestionably his book on the physiology of vision shows that his bent was very largely scientific. By one thing his name is still kept alive in Glasgow and the West of Scotland, and that is by the lotion which he used universally. It was practically a solution of sal alembroth, sometimes made up with a little belladonna. These two lotions are still extensively used by some of the surgeons of the Glasgow Eye Infirmary, under the names respectively of "simple" or "compound lotion," and even yet in chemists' shops in Glasgow prescriptions are often received simply for McKenzie's lotion.

It may also be not inappropriate to mention that McKenzie's usual fee for a consultation was 3s. 6d., for which sum the patient was not only seen by McKenzie and advised, but also received a bottle of one or other of the foregoing lotions from an attendant who kept his consulting rooms.

A man who knew him well told the present writer that on one occasion a gentleman had travelled half the world over to consult McKenzie. At the end of the interview he put down a gold guinea-piece on the consulting room table, whereupon the great man immediately dipped his hand into his pocket, got out a lot of change, and counted out 17s. 6d. Such were fees in those days charged by the Royal oculist in Scotland, and yet, at his death, McKenzie left a very considerable fortune.

He is said to have been a man of friendly manners, possessed of a very refreshing, homely, mother-wit. As a young boy, the present writer, being a school companion of McKenzie's son, remembers him quite well, but was at that time much too young to remember anything personally about him except that he appeared to be a very genial and kindly man to youngsters.